

## Appendix A – search string

### Databases used

- PubMed
- CINAHL
- ERIC
- Web of Science

### 1. postgrad med

("Education, Medical, Graduate"[Mesh] OR "Internship and Residency"[Mesh] OR (house[tiab] AND officer\*[tiab]) OR resident\*[tiab] OR residency[tiab] OR intern[tiab] OR interns[tiab] OR internship\*[tiab] OR trainee\*[tiab] OR registrar\*[tiab] OR postgradua\*[tiab] OR post gradua\*[tiab] OR cme[tiab] OR cmes[tiab] OR continuous medical education\*[tiab])

### 2. e-learning tools

"Computer-Assisted Instruction"[Mesh] OR "Education, Distance"[Mesh] OR e-learning[Title/Abstract] OR electronic learning[Title/Abstract] OR distance education[Title/Abstract] OR technology-enhanced learning[Title/Abstract] OR tele-learning[Title/Abstract ] OR distance learning[Title/Abstract] OR (("Computer Communication Networks"[Mesh] OR "User-Computer Interface"[Mesh] OR "Multimedia"[Mesh] OR "Cell phones"[Mesh] OR "Computers, handheld"[Mesh] OR "Mobile Applications"[Mesh] OR "Internet"[Mesh] OR app[tiab] OR apps[tiab] OR smartphone\*[tiab] OR phone application\*[tiab] OR telephone application\*[tiab] OR mobile application\*[tiab] OR mobile technolog\*[tiab] OR internet\*[tiab] OR world wide web\*[tiab] OR webbased[tiab] OR web based[tiab] OR webportal\*[tiab] OR web portal\*[tiab] OR ipad[tiab] OR ipads[tiab] OR sms[tiab] OR mms[tiab] OR text messag\*[tiab] OR ussd[tiab] OR pda[tiab] OR laptop\*[tiab] OR palmtop\*[tiab] OR palm top\*[tiab] OR personal digital assistant\*[tiab] OR multimedia[tiab] OR iphone\*[tiab] OR android[tiab] OR game\*[tiab] OR gaming[tiab] OR gamification[tiab] OR whatsapp\*[tiab] OR wearable\*[tiab] OR social media[tiab] OR "online social network"[tiab] OR "online social networks"[tiab] OR facebook[tiab] OR serious gam\*[tiab] OR electronic\*[tiab] OR computer based[tiab] OR online[tiab] OR virtual\*[tiab]) AND ("Learning"[Mesh] OR "Education, Professional"[Mesh] OR learning[tiab] OR education\*[tiab] OR instructi\*[tiab] OR simulat\*[tiab]))

"Computer-Assisted Instruction"[Majr] OR "Education, Distance"[Majr] OR e-learning[Ti] OR electronic learning[Ti] OR distance education[Ti] OR technology-enhanced learning[Ti] OR tele-learning[Ti] OR distance learning[Ti] OR (("Computer Communication Networks"[Majr] OR "User-Computer Interface"[Majr] OR "Multimedia"[Majr] OR "Cell phones"[Majr] OR "Computers, handheld"[Majr] OR "Mobile Applications"[Majr] OR "Internet"[Majr] OR app[ti] OR apps[ti] OR smartphone\*[ti] OR phone application\*[ti] OR telephone application\*[ti] OR mobile application\*[ti] OR mobile technolog\*[ti] OR internet\*[ti] OR world wide web\*[ti] OR

webbased[ti] OR web based[ti] OR webportal\*[ti] OR web portal\*[ti] OR ipad[ti] OR ipads[ti] OR sms[ti] OR mms[ti] OR text messag\*[ti] OR ussd[ti] OR pda[ti] OR laptop\*[ti] OR palmtop\*[ti] OR palm top\*[ti] OR personal digital assistant\*[ti] OR multimedia[ti] OR iphone\*[ti] OR android[ti] OR game\*[ti] OR gaming[ti] OR gamification[ti] OR whatsapp\*[ti] OR wearable\*[ti] OR social media[ti] OR "online social network"[ti] OR "online social networks"[ti] OR facebook[ti] OR serious gam\*[ti] OR electronic\*[ti] OR computer based[ti] OR online[ti] OR virtual\*[ti] AND ("Learning"[Majr] OR "Education, Professional"[Majr] OR learning[ti] OR education\*[ti] OR instructi\*[ti] OR simulat\*[ti]))

### 3. RCT's, SR's

((random\*[tiab] AND (controlled[tiab] OR control[tiab] OR placebo[tiab] OR versus[tiab] OR vs[tiab] OR group[tiab] OR groups[tiab] OR comparison[tiab] OR compared[tiab] OR arm[tiab] OR arms[tiab] OR crossover[tiab] OR cross-over[tiab])) AND (trial[tiab] OR study[tiab])) OR ((single[tiab] OR double[tiab] OR triple[tiab]) AND (masked[tiab] OR blind\*[tiab])))

OR

((review\*[tiab] OR search\*[tiab] OR survey\*[tiab] OR handsearch\*[tiab] OR hand-search\*[tiab]) AND (databa\*[tiab] OR data-ba\*[tiab] OR bibliograph\*[tiab] OR electronic\*[tiab] OR medline\*[tiab] OR pubmed\*[tiab] OR embase\*[tiab] OR Cochrane[tiab] OR cinahl[tiab] OR psycinfo[tiab] OR psychinfo[tiab] OR cinhal[tiab] OR "web of science"[tiab] OR "web of knowledge"[tiab] OR ebsco[tiab] OR ovid[tiab] OR mrct[tiab] OR metaregist\*[tiab] OR meta-regist\*[tiab] OR ((predetermined[tiab] OR pre-determined[tiab]) AND criteri\*[tiab]) OR apprais\*[tiab] OR inclusion criteri\*[tiab] OR exclusion criteri\*[tiab])) OR (review[pt] AND systemat\*[tiab]) OR "systematic review"[tiab] OR "systematic literature"[tiab] OR "integrative review"[tiab] OR "integrative literature"[tiab] OR "evidence-based review"[tiab] OR "evidence-based overview"[tiab] OR "evidence-based literature"[tiab] OR "evidence-based survey"[tiab] OR "literature search"[tiab] OR ((systemat\*[ti] OR evidence-based[ti]) AND (review\*[ti] OR literature[ti] OR overview[ti] OR survey[ti])) OR "data synthesis"[tiab] OR "evidence synthesis"[tiab] OR "data extraction"[tiab] OR "data source"[tiab] OR "data sources"[tiab] OR "study selection"[tiab] OR "methodological quality"[tiab] OR "methodologic quality"[tiab] OR cochrane database syst rev[ta] OR meta-analy\*[tiab] OR metaanaly\*[tiab] OR metanaly\*[tiab] OR meta-analysis[pt] OR meta-synthesis[tiab] OR metasynthesis[tiab] OR meta-study[tiab] OR metastudy[tiab] OR metaethnograph\*[tiab] OR meta-ethnograph\*[tiab] OR Technology Assessment, Biomedical[mh] OR hta[tiab] OR health technol assess [ta] OR evid rep technol assess summ[ta] OR health technology assessment[tiab]) OR ((review\*[ot] OR search\*[ot] OR survey\*[ot] OR handsearch\*[ot] OR hand-search\*[ot]) AND (databa\*[ot] OR data-ba\*[ot] OR bibliograph\*[ot] OR electronic\*[ot] OR medline\*[ot] OR pubmed\*[ot] OR embase\*[ot] OR cochrane[ot] OR cinahl[ot] OR psycinfo[ot] OR psychinfo[ot] OR cinhal[ot] OR "web of science"[ot] OR "web of knowledge"[ot] OR ebsco[ot] OR ovid[ot] OR mrct[ot] OR metaregist\*[ot] OR meta-regist\*[ot] OR ((predetermined[ot] OR pre-determined[ot]) AND criteri\*[ot]) OR apprais\*[ot] OR inclusion criteri\*[ot] OR exclusion criteri\*[ot]) OR (review[pt] AND systemat\*[ot]) OR "systematic review"[ot] OR "systematic literature"[ot] OR "integrative review"[ot] OR "integrative literature"[ot] OR "evidence-based review"[ot] OR "evidence-based overview"[ot] OR "evidence-based literature"[ot] OR "evidence-based survey"[ot] OR

"literature search"[ot] OR ((systemat\*[ti] OR evidence-based[ti]) AND (review\*[ti] OR literature[ti] OR overview[ti] OR survey[ti])) OR "data synthesis"[ot] OR "evidence synthesis"[ot] OR "data extraction"[ot] OR "data source"[ot] OR "data sources"[ot] OR "study selection"[ot] OR "methodological quality"[ot] OR "methodologic quality"[ot] OR meta-analy\*[ot] OR metaanaly\*[ot] OR metanaly\*[ot] OR meta-analysis[pt] OR meta-synthesis[ot] OR metasynthesis[ot] OR meta-study[ot] OR metastudy[ot] OR metaethnograph\*[ot] OR meta-ethnograph\*[ot] OR hta[ot] OR health technology assessment[ot])